

Notice of Allowability

Application No.

10/629,442

Examiner

Patricia L. Hailey

Applicant(s)

KOHLER ET AL.

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicants' Application filed July 28, 2003.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ The drawings filed on 28 July 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 1/12/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 8/2/04.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 9 and 10 (following originally filed claims 8 and 9) have been renumbered as claims 10 and 11.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on July 28, 2003.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Tor Smeland on August 2, 2004.

The application has been amended as follows:

- a. In line 6 of claim 6, after the phrase "a solvent", please insert the phrase *—and a surfactant—*.
- b. In line 5 of claim 6, please delete "and".

Claim 6 has been amended to ensure proper antecedent basis.

Allowable Subject Matter

4. Claims 1-11 are allowed.

Reasons for Allowance

5. The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach or suggest the claimed catalyst ink comprising an electrocatalyst, an ionomer solution, water, an organic solvent, and a surfactant. The prior art also does not teach or suggest the respectively claimed processes for producing a catalyst-coated substrate and a gas diffusion electrode, wherein, in each process, a catalyst ink comprising an electrocatalyst, an ionomer, a solvent and a surfactant is employed.

The presence of a surfactant in the catalyst ink is not known in the art.

Starz et al. (U. S. Patent Application Publication No. 2002/0034674) disclose an ink comprising a catalyst material, an ionomer, water, and an organic solvent, and the employment of said ink in polymer electrolyte membranes, membrane electrode assemblies, and gas distributor substrates. Although the instantly claimed catalyst ink contains these components (the organic solvent is present in a percentage range of 0-50 wt.%), the catalyst ink of Starz et al. does not teach or reasonably suggest the presence of a surfactant, which is required by the instant claims.

Hohenthanner et al. (U. S. Patent Application Publication No. 2004/0023105) disclose a catalyst ink containing an electrocatalyst, an ionomer solution, water, an organic solvent, and a surfactant. However, this reference (which has a common assignee with the instant application) has an effective filing date of July 24, 2003, which is after Applicants' foreign priority date of July 31, 2002.

Japanese Publication No. 2004-068018 (published on March 4, 2004) corresponds to Applicants' foreign priority document (European Patent Application No. 02017239.1).

Mizuno et al. (U. S. Patent Application Publication No. 2001/0024748) disclose a method for producing an electrode catalyst solution by mixing together water and a solvent (e.g., a polyalcohol), dispersing therein a catalyst-loaded carbon powder, followed by adding a polymer electrolyte, and adjusting the viscosity by

adding a second solvent (ethanol, isopropanol). Mizuno et al. do not teach or suggest the addition thereto of a surfactant.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

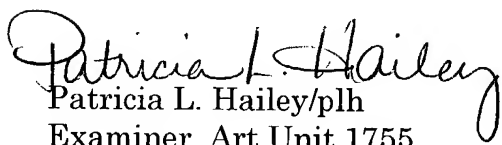
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Thursdays.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Art Unit: 1755

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Patricia L. Hailey/plh
Examiner, Art Unit 1755
August 5, 2004


Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700